

Federally Listed Threatened and Endangered Species/State Rare,
Threatened, and Endangered Species Assessment and Jurisdictional
Waters/Wetlands Assessment

Toolebeck – Aiken 230 kV Tie and
Segments of the Graniteville #2 – Toolebeck 230 kV and
Toolebeck – South Augusta 230 kV Tie and
Associated Facilities

Aiken County, South Carolina

Prepared for:

Pike Engineering, LLC
250 Berryhill Road, Suite 525
Columbia, South Carolina 29210

Prepared by:

 **Palmetto
Environmental
Consulting, Inc**
Post Office Box 1730
Lexington, South Carolina 29071

November 7, 2019

Introduction

Pike Engineering, LLC contracted Palmetto Environmental Consulting, Inc. (PEC) to conduct an assessment for federally- and state- listed threatened and endangered species, and a state-listed rare (S1, S2, and S3) species habitat assessment on an approximately 327-acre, 18-mile long transmission line corridor (Project Area) located in Aiken County, South Carolina, known as the Toolebeck – Aiken 230 kV Tie and Segments of the Graniteville #2 – Toolebeck 230 kV and Toolebeck – South Augusta 230 kV Tie and Associated Facilities (hereafter referred to as Project Area, see Appendix A, Figure 1). The on-site assessment also consisted of delineating any waters/wetlands located in the Project Area.

The existing transmission line corridor is generally oriented northeast to southwest, the northeast terminus being the South Carolina Public Service Authority (SCPSA, or Santee Cooper) Interconnection Point, the southwest terminus being the Urquhart Junction (Appendix A, Figures 2-1 through 2-5). The Project Area consists of the cleared right-of-way (ROW) of the existing 150-foot wide transmission line corridor. PEC understands the project will consist of rebuilding the existing 115kV line within the cleared ROW to a new double circuit steel pole line.

The purpose of this report is to provide the results of the federal and state protected species assessment and state species of concern habitat assessment, and a brief description of jurisdictional waters/wetlands located in the Project Area. For purposes of the species assessment, PEC addresses only those species listed by the USFWS as federally threatened or endangered, and those species listed by SCDNR as:

- SE (State Endangered);
- ST (State Threatened);
- S1 (Critically Imperiled—At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors);
- S2 (Imperiled—At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors); or
- S3 (Vulnerable—At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors).

For S1, S2, and S3 species, PEC has only made a determination as to whether appropriate habitat for those species exists within the Project Area.

Site Description and Waters Results

The Project Area consists of a cleared 150-foot wide transmission line ROW. Some portions of the corridor appear to be maintained/cut more often than others, but the majority of vegetation consists of herbaceous species with a scattering of shrubby species. Also within the corridor are stretches of maintained pastures associated with horse farms. Upland herbaceous species consist of a wide variety of grasses (*Paspalum* sp., *Digitaria* sp.), johnsongrass (*Sorghum halepense*), rough Mexican clover (*Richardia scabra*), pokeweed (*Phytolacca americana*), field madder (*Sherardia arvensis*), sicklepod (*Senna obtusifolia*), bracken fern (*Pteridium aquilinum*), partridge pea (*Chamaecrista fasciculata*), dogfennel (*Eupatorium capillifolium*), various lespedezas (*Lespedeza* sp.), various pines (*Pinus* sp.), broom-sedge (*Andropogon virginicus*), goldenrod (*Solidago* sp.), blackberry (*Rubus* sp.), catbrier (*Smilax* sp.), muscadine (*Vitis rotundifolia*), winged sumac (*Rhus*

copallinum), black cherry (*Prunus serotina*), ragweed (*Ambrosia artemisiifolia*), purple lovegrass (*Eragrostis spectabilis*), blazing star (*Liatris* sp.), meadow beauty (*Rhexia* sp.), rosette grass (*Dichanthelium* sp.), milkpea (*Galactia* sp.), crossvine (*Bignonia capreolata*), Virginia creeper (*Parthenocissus quinquefolia*), yellow jessamine (*Gelsemium sempervirens*), Japanese honeysuckle (*Lonicera japonica*), and various oaks (*Quercus* sp.).

Wetland vegetation species consist of many of the same species found in uplands, but also include sycamore, (*Platanus occidentalis*), Chinese privet (*Ligustrum sinense*), various knotweeds (*Polygonum* sp.), bushy bluestem (*Andropogon glomeratus*), lamp rush (*Juncus effusus*), various sedges (*Carex* sp.), woolgrass (*Scirpus cyperinus*), false nettle (*Boehmeria cylindrica*), black willow (*Salix nigra*), and giant plume grass (*Saccharum giganteum*). Select photographs are attached to the end of this document.

During the waters/wetland delineation, pink “Wetland Delineation” surveyor tape was placed at regular intervals along wetland boundaries, blue and white striped flagging along streams not contained within wetlands, and the location of each flag was collected with a Trimble GeoXH 6000 Series GPS unit. A map was created depicting the approximate boundaries of waters and wetlands within the Project Area (Figures 2-1 through 2-6).

Approximately 12.21 acres of wetlands, 0.77 acre of open water, and 1160 linear feet (0.13 acre) of stream are located within the Project Area. Most wetland acreage within the corridor is associated with Shaw Creek and one of its unnamed tributaries (Wetlands A and B, 9.65 acres). The remaining wetlands are generally located within narrow topographic draws, most of which are associated with blue line streams as shown on USGS topographic maps (though most of these blue line streams do not exist in the field). One open water area (Pond E on Figure 2-4) is in the Project Area. Wetlands appear to be maintained/cut with the same frequency as uplands within the corridor. The large wetland system associated with Shaw Creek appears not to be cut as often as the rest of the corridor but does seem to have been cut in the past two or three years. See attached photographs of representative areas throughout the Project Area.

An item of note is the in-field absence of many blue line streams in the Project Area as mapped on USGS topographic quadrangles. Field investigations revealed 12 crossings within the Project Area where no streams or wetlands existed in locations shown on the USGS maps as blue line streams. This was the case even of one named “stream” (Wise Hollow Creek). In most of these areas, there was no evidence of any sort of channel.

At the writing of this report, the delineation has not been approved by the USACE. PEC submitted a Request for Jurisdictional Determination package to the USACE on October 29, 2019, to request their approval of the waters delineation (USACE file number SAC-2019-01792).

Protected Species Literature and Records Search

PEC personnel conducted a protected species literature and records search in September 2019 to determine the presence of known occurrences of federally- and state-listed animal and plant species on or within a one-mile radius of the project area. The literature and records search included review of the following resources:

- The USFWS South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species for Aiken County (last updated September 9, 2019);

- SCDNR Rare, Threatened, and Endangered Species of South Carolina list for Aiken County (website dated 2015); and
- The SCDNR Heritage Trust Program's Rare, Threatened, and Endangered Species occurrence database, last updated June 2017.

The literature and records search revealed no known occurrences of state or federally-listed species within a one-mile radius of the Project Area. However, email coordination dated September 12, 2019, between Pike Engineering and SCDNR reflects that an occurrence of winter grape-fern (*Botrychium lunarioides*, ranked S1 by SCDNR) is located 0.5 mile from the Project Area. No specific location of the occurrence was provided.

Seventy-six (76) species of federally- and state-listed plants and animals either occur or potentially occur in Aiken County. These species are summarized in Table 1 at the end of this document. Because of the large number of species listed for Aiken County, this report will address only those species for which appropriate habitat was located within the project area.

Species Descriptions and Results

Animals

Bald eagle (*Haliaeetus leucocephalus*)

The bald eagle is primarily riparian, associated with rivers, coasts, and lakes, usually nesting near bodies of water where it feeds. Selection of nesting sites varies depending on the species of trees growing in a particular area, but in the Southeast, nests are constructed in dominant or codominant pines or cypress. Many nests are used annually. In South Carolina, bald eagles typically nest from October 1 through May 15.

While the bald eagle is no longer listed as federally threatened or endangered, it is still protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). Under BGEPA, the National Bald Eagle Management Guidelines protect habitat for the species although the protective buffers are smaller than the earlier requirements under the Endangered Species Act. Bald eagle is listed by SCDNR as State Threatened (ST). The SCDNR GIS layer reflects no known occurrence of this species within one mile of the project corridor. None were observed during field investigations.

Southern fox squirrel (*Sciurus niger*)

Southeastern fox squirrels select more pine-dominated habitats compared to the deciduous habitats selected by the midwestern subspecies. Throughout the lower Coastal Plain, fox squirrels occur in fire-maintained longleaf pine (*Pinus palustris*) turkey oak (*Quercus laevis*) sand hills, pine flatwoods, and associated bottomland habitat. The preferred habitat of fox squirrels in the Sandhills and Piedmont of the Carolinas, Georgia, and elsewhere is mixed stands of longleaf, loblolly (*P. taeda*), and shortleaf pine (*P. echinata*), hardwoods, and bottomlands. Throughout its range, parks, golf courses, and residential areas may support substantial fox squirrel populations. The species is listed by SCDNR as S3S4. One occurrence of fox squirrel was observed within the Project Area. It was seen on the ground in the Project Area, reared up and observing as field personnel passed by.

Eastern spotted skunk (*Spilogale putorius*)

The spotted skunk inhabits woods and brush and has a strong propensity to be near farmyards. It prefers dense cover like that which occurs along fences, embankments, gullies and hedgerows.

Spotted skunks will also use barns and outbuildings for cover. Biologists on the Savannah River Site have documented spotted skunks associated with old fields, open forests, and hedgerow habitats. Dead and downed trees and abundant coarse woody debris are important microhabitats required by spotted skunks. This species is listed by SCDNR as S3.

Plants

Small-flowered Buckeye (*Aesculus parviflora*)

Small-flowered buckeye occurs on moist, well-drained, shallow soils over limestone or loamy sands. It is classified by SCDNR as an S1 species, and the database revealed no known occurrences of this species within one mile of the Project Area.

Striped Garlic (*Allium cuthbertii*)

This species is found on granitic “flat-rocks” of the Piedmont and in sand on coastal plains. SCDNR has classified it as an S2 species. No occurrences were shown within one mile of the Project Area.

Piedmont Three-awned Grass (*Aristida condensata*)

This species grows on sandy hills and in pine and oak barrens in the southeastern United States. The literature and records search revealed no known occurrences within one mile of the Project Area. It is listed by SCDNR as an S2 species.

Bearded Milk-vetch (*Astragalus villosus*)

Bearded milk-vetch grows in sandhills, sandy open woods, pinelands, and disturbed sites. SCDNR classifies it as an S1 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Winter Grape-fern (*Botrychium lunarioides*)

Winter grape-fern can occur in open grassy places in prairies, cemeteries, and weedy roadsides. The literature and records search revealed no known occurrences within one mile of the project area. However, as stated earlier in this report, email coordination dated September 12, 2019, between Pike Engineering and SCDNR reflects that an occurrence of winter grape-fern (ranked S1 by SCDNR) is located 0.5 mile from the Project Area. No specific location of the occurrence was provided.

Yellowwood (*Cladrastis kentukea*)

Yellowwood prefers moist, organic soils that drain well, but is adaptable to poor soils, dry soils, and soils of various pH. It does not tolerate wet soils. It is classified by SCDNR as an S1 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Rose Coreopsis (*Coreopsis rosea*)

This species can be found on shores of lakes and ponds, in and around wet depressions, and occasionally on river and stream shores. It does well on broad, open shorelines, where it tends to occupy the mid- to upper shoreline areas. Substrates are usually sand, gravel, or peat, or mixtures of these. It is classified by SCDNR as an S2 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Smooth Coneflower (*Echinacea laevigata*)

Smooth coneflower is typically found in open woods, glades, cedar barrens, roadsides, clearcuts, dry limestone bluffs, and power line rights-of-way, usually on magnesium and calcium rich soils

associated with amphibolite, dolomite or limestone (in Virginia), gabbro (in North Carolina and Virginia), diabase (in North Carolina and South Carolina), and marble (in South Carolina and Georgia). It occurs in plant communities that have been described as xeric hardpan forests, diabase glades or dolomite woodlands. Optimal sites are characterized by abundant sunlight and little competition in the herbaceous layer. Natural fires, as well as large herbivores, historically influenced the vegetation in this species' range. Many of the herbs associated with smooth coneflower are also sun-loving species that depend on periodic disturbances to reduce the shade and competition of woody plants. It is classified by USFWS as Federally Endangered (FE). The literature and records search revealed no known occurrences within one mile of the Project Area, and none were observed during field investigations.

False Rue-anemone (*Enemion biternatum*)

This species may be found in moist deciduous woods of valleys, flood plains, and ravine bottoms, occasionally in open pastures, often on limey soils. It is classified by SCDNR as an S1 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Eastern Wahoo (*Euonymus atropurpureus*)

Eastern wahoo is a shrub that prefers moist to mesic woodlands, shaded to partially shaded riverbanks, woodland borders, wooded slopes, small openings in wooded areas, and thickets. It is listed by SCDNR as an S1 species. There are no known occurrences of this species within one mile of the Project Area.

Biennial Gaura (*Gaura biennis*)

Biennial gaura is a native biennial plant that can inhabit prairies, open woods, and stream banks in shade to part shade with moist to dry soils. It is listed as an S1 species by SCDNR. There are no known occurrences of this species within one mile of the Project Area.

Red Standing-cypress (*Ipomopsis rubra*)

Red standing-cypress habitat consists of dry, sandy or rocky fields or open woods that contain well-drained sand, loam, or limestone. The literature and records search revealed no known occurrences of this S2 species within one mile of the Project Area.

Pyramid Magnolia (*Magnolia pyramidata*)

Pyramid magnolia is a slender, semi-deciduous tree that lives in rich woods and river bluffs, mostly coastal plain, sometimes in the lower piedmont. It is listed as an S1 species by SCDNR. There are no known occurrences of this species within one mile of the Project Area.

Nestronia (*Nestronia umbellula*)

Nestronia is a small shrub found in upland mixed pine and hardwood stands, pine stands, and growing with upland oaks and hickories. SCDNR has classified it as an S3 species. There are no known occurrences of this species within one mile of the Project Area.

Pine-leaved Golden Aster (*Pityopsis pinifolia*)

Pine-leaved golden aster can be found on Fall Line sandhills with open, scrub oak-longleaf pine vegetation. It sometimes occurs in cleared and cut over areas, and persisting in old fields, maintained rights-of-way, and pine plantations. It is classified by SCDNR as an S2 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Green-fringe Orchid (*Platanthera lacera*)

Green-fringe orchid habitat consists of sphagnum bogs, alluvial and swamp forests, stream banks, riparian meadows, sand flats, moist and seeping slopes, prairies, roadside banks, ditches, old fields, and borrow pits. It is classified by SCDNR as an S2 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Piedmont Azalea (*Rhododendron flammeum*)

Piedmont azalea is a deciduous shrub that prefers open dry woods, slopes and ridges, and stream bluffs. This species is classified S3 by SCDNR. There are no known occurrences of this species within one mile of the Project Area.

Sandhills Wild Petunia (*Ruellia caroliniensis* ssp. *ciliosa*)

This species is a wild petunia with blue or violet flowers that appear in the spring, summer, and autumn. It prefers sandy, upland, open woods. It is classified by SCDNR as an S1 species. There are no known occurrences of this species within one mile of the Project Area.

Pickering's Morning-glory (*Stylisma pickeringii* var. *pickeringii*)

Pickering's morning-glory is usually found in the driest, most barren, deep-sand areas and occasionally colonizes along roadsides and other disturbed areas. It is classified by SCDNR as an S1 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Aethusa-like Trepocarpus (*Trepocarpus aethusae*)

Aethusa-like trepocarpus can be located within margins of swamp forests and sandy river bottoms, and wet roadside ditches. It is classified by SCDNR as an S1 species. The literature and records search revealed no known occurrences within one mile of the Project Area.

Conclusion

Of the approximately 327 acres that encompass the Project Area, approximately 12.21 acres are wetlands, 0.13 acre (1160 linear feet) is streams, and approximately 0.77 acre is open water (pond). Most wetland areas within the Project Area can generally be classified as herbaceous with limited shrub/scrub wetlands as the ROW appears to have been cut in the past two or three years. There are a few locations where shrub/scrub vegetation occurs outside of wetlands in small patches, but not of sufficient quantity to be discussed in this report.

The literature and records search revealed no known occurrences of state or federally listed species within one mile of the Project Area. However, email coordination dated September 12, 2019, between Pike Engineering and SCDNR reflects that an occurrence of winter grape-fern (ranked S1 by SCDNR) is located 0.5 mile from the Project Area. The specific location of the occurrence was not provided.

Potential habitat for 22 of the 76 listed species appears to be located within the Project Area. Of these 22 species, three (3) are animals and 19 are plants (see Species Descriptions and Results section). No occurrences of federal or state listed protected species were readily observed within the Project Area during field investigations. One fox squirrel was observed within the Project Area and likely had been foraging within or simply passing through the cleared ROW.

Table 1. Federally- and State-Listed Species Occurring or Potentially Occurring in Aiken County

Scientific Name	Common Name	State/Federal Status or Rank	Known Occurrence within One Mile?	Habitat within Project Area?
<i>Acipenser brevirostrum</i> *	shortnose sturgeon	FE/SE	No	No
<i>Acipenser oxyrinchus</i> *	Atlantic sturgeon	FE	No	No
<i>Aesculus parviflora</i>	small-flowered buckeye	S1	No	Yes
<i>Alligator mississippiensis</i> *	American alligator	FT, ST	No	No
<i>Allium cuthbertii</i>	striped garlic	S2	No	Yes
<i>Ambystoma tigrinum tigrinum</i> *	Eastern tiger salamander	S2S3	No	No
<i>Aristida condensata</i>	piedmont three-awned grass	S2	No	Yes
<i>Astragalus villosus</i>	bearded milk-vetch	S1	No	Yes
<i>Botrychium lunarioides</i>	winter grape-fern	S1	Yes	Yes
<i>Calamovilfa brevipilis</i>	pine-barrens reed-grass	S1	No	No
<i>Carex cherokeensis</i>	Cherokee sedge	S2	No	No
<i>Carex collinsii</i>	Collins' sedge	S2	No	No
<i>Carex elliotii</i>	Elliott's sedge	S1	No	No
<i>Carex folliculata</i>	long sedge	S1	No	No
<i>Carex socialis</i>	social sedge	S1	No	No
<i>Cladrastis kentukea</i>	yellowwood	S1	No	Yes
<i>Ceratiola ericoides</i>	sandhills rosemary	S1	No	No
<i>Clemmys guttata</i> *	spotted turtle	ST	No	No
<i>Condylura cristata</i> *	star-nosed mole	S3	No	No
<i>Coreopsis rosea</i>	rose coreopsis	S2	No	Yes
<i>Corynorhinus rafinesquii</i> *	Rafinesque's big-eared bat	SE	No	No
<i>Croton elliotii</i>	Elliott's croton	S2S3	No	No
<i>Cystopteris protrusa</i>	lowland brittle fern	S2	No	No
<i>Delphinium carolinianum</i>	Carolina larkspur	S1	No	No
<i>Dirca palustris</i>	Eastern leatherwood	S2	No	No
<i>Echinacea laevigata</i>	smooth coneflower	FE	No	Yes
<i>Echinodorus tenellus</i>	dwarf burhead	S2	No	No
<i>Eleocharis robbinsii</i>	Robbins spike-rush	S2	No	No
<i>Enemion biternatum</i>	false rue-anemone	S1	No	Yes
<i>Euonymus atropurpureus</i>	Eastern wahoo	S1	No	Yes
<i>Forestiera ligustrina</i>	upland swamp privet	S2	No	No
<i>Fusconaia masoni</i>	Atlantic pigtoe	SE	No	No
<i>Gaura biennis</i>	biennial gaura	S1	No	Yes
<i>Gopherus polyphemus</i> *	gopher tortoise	SE	No	No
<i>Halesia parviflora</i>	small-flowered silverbell-tree	S2	No	No
<i>Haliaeetus leucocephalus</i> *	bald eagle	SE	No	Yes
<i>Heterodon simus</i> *	Southern hognose snake	ST	No	No
<i>Hymenocallis coronaria</i>	shoals spider-lily	S2	No	No
<i>Ilex amelanchier</i>	Sarvis holly	S3	No	No
<i>Ipomopsis rubra</i>	red standing-cypress	S2	No	Yes
<i>Kalmia cuneata</i>	White-wicky	S2	No	No
<i>Lindera subcoriacea</i>	bog spicebush	S3	No	No
<i>Lithobates capito</i> *	gopher frog	SE	No	No
<i>Lobelia boykinii</i>	Boykin's lobelia	S3	No	No
<i>Ludwigia spathulata</i>	spatulate seedbox	S2	No	No
<i>Macbridea caroliniana</i>	Carolina bird-in-a-nest	S3	No	No
<i>Magnolia cordata</i>	Piedmont cucumber tree	S1	No	No
<i>Magnolia pyramidata</i>	pyramid magnolia	S1	No	Yes
<i>Micrurus fulvius</i> *	Eastern coral snake	S2	No	No
<i>Mycteria americana</i> *	wood stork	FE	No	No

Scientific Name	Common Name	State/Federal Status or Rank	Known Occurrence within One Mile?	Habitat within Project Area?
<i>Myriophyllum laxum</i>	Piedmont water-milfoil	S2	No	No
<i>Neotoma floridana floridana</i> *	eastern woodrat	S3S4	No	No
<i>Nerodia floridana</i> *	Florida green water snake	S2	No	No
<i>Nestronia umbellula</i>	nestronia	S3	No	Yes
<i>Nolina georgiana</i>	Georgia beargrass	S3	No	No
<i>Perimyotis subflavus</i> *	tricolored bat	S1S2	No	No
<i>Picoides borealis</i> *	red-cockaded woodpecker	FE/SE	No	No
<i>Pityopsis pinifolia</i>	pine-leaved golden aster	S2	No	Yes
<i>Pituophis melanoleucus</i> *	pine or gopher snake	S3S4	No	No
<i>Platanthera lacera</i>	green-fringe orchid	S2	No	Yes
<i>Ptilimnium nodosum</i>	harperella	FE	No	No
<i>Rhododendron flammeum</i>	Piedmont azalea	S3	No	Yes
<i>Rhynchospora inundata</i>	drowned hornedrush	S2	No	No
<i>Ruellia caroliniensis</i> ssp. <i>ciliata</i>	Sandhills wild petunia	S1	No	Yes
<i>Sagittaria isoetiformis</i>	slender arrow-head	S3	No	No
<i>Sarracenia rubra</i>	sweet pitcher-plant	S3S4	No	No
<i>Sciurus niger</i> *	Southern fox squirrel	S3S4	Observed	Yes
<i>Solidago auriculata</i>	eared goldenrod	S1	No	No
<i>Spilogale putoris</i> *	Eastern spotted skunk	S3	No	Yes
<i>Sporobolus pinetorum</i>	Carolina dropseed	S2	No	No
<i>Stylisma pickeringii</i> var. <i>pickeringii</i>	Pickering's morning-glory	S1	No	Yes
<i>Syngonanthus flavidulus</i>	yellow pipewort	S2	No	No
<i>Trepocarpus aethusae</i>	Aethusa-like trepocarpus	S1	No	Yes
<i>Tridens carolinianus</i>	Carolina fluff grass	S1	No	No
<i>Trillium lancifolium</i>	narrow-leaved trillium	S1	No	No
<i>Trillium pusillum</i> var. <i>pusillum</i>	least trillium	S1	No	No
<i>Trillium reliquum</i>	relict trillium	FE	No	No
<i>Xyris brevifolia</i>	short-leaved yellow-eyed grass	S1	No	No

ST – State Threatened

SE – State Endangered

FT – Federally Threatened

FE – Federally Endangered

*Denotes animal species

S1 – Critically Imperiled—At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

S2 – Imperiled—At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 – Vulnerable—At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations, occurrences, recent and widespread declines, threats, or other factors.



Photograph 1. Wetland H, facing SW. Photo is typical of wetlands flagged within Project Area.



Photograph 2. Wetland A, facing NW. This is the large wetland system associated with Shaw Creek.



Photograph 3. Photo where USGS topo shows named stream (Wise Hollow Creek), facing NW.



Photograph 4. USGS topo shows blue line stream here, just SW of and flowing into Wise Hollow Creek, facing NW. Areas as this were common in the Project Area.



Photograph 5. Pond J, facing SW. Pond was built on named blue line stream (Hollow Creek).

APPENDIX A

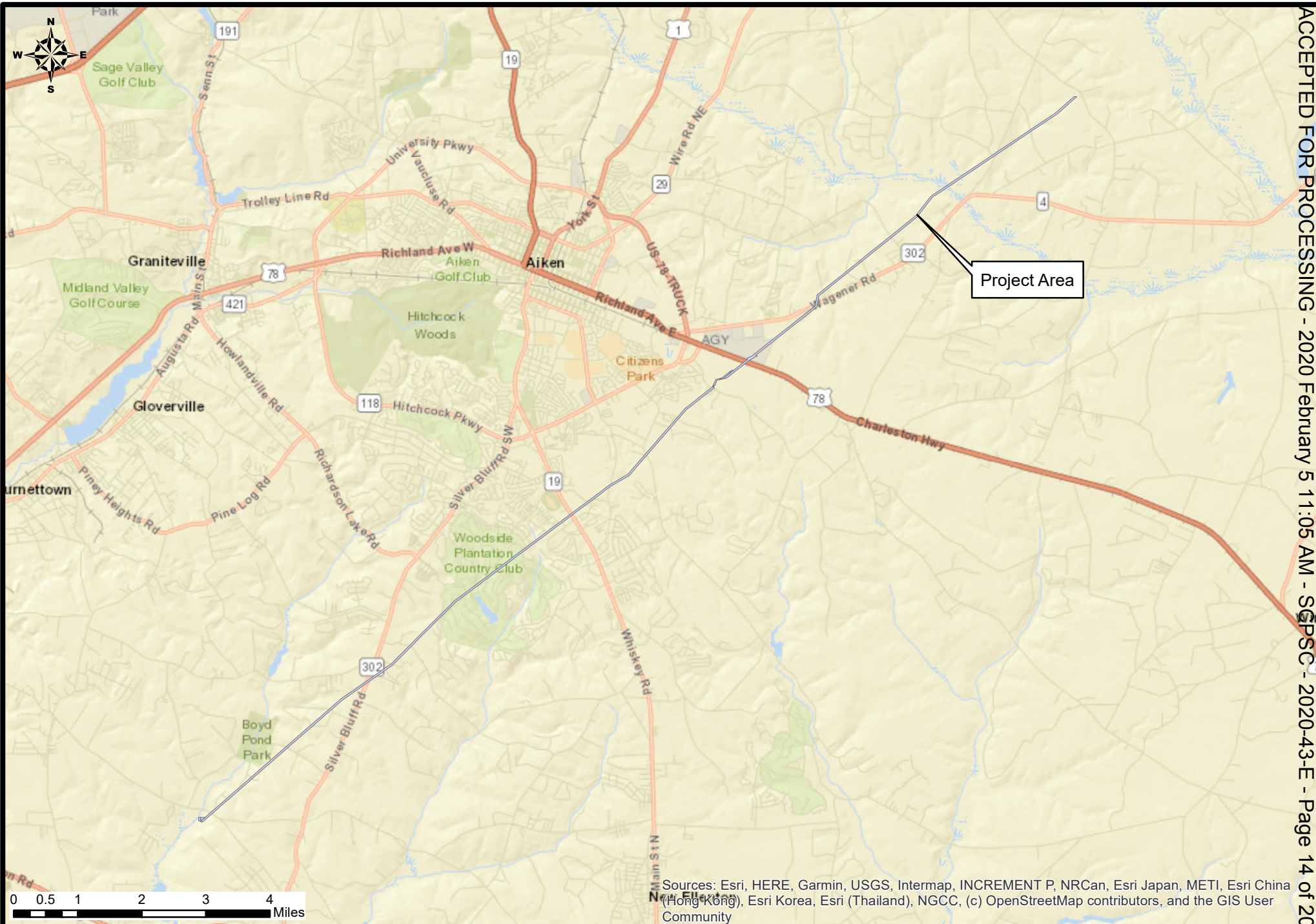


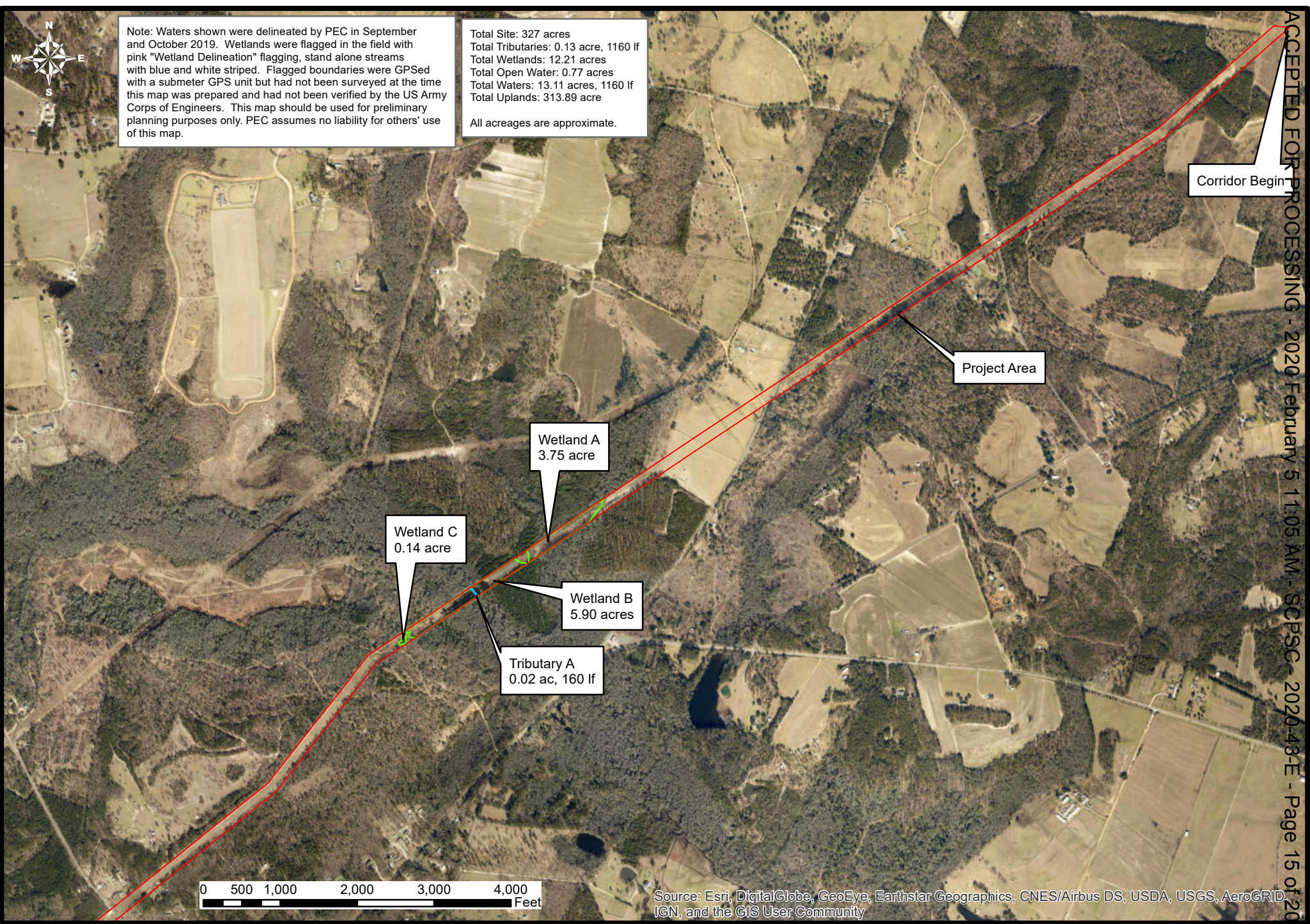
Figure 1. Site Location

Toolebeck - Aiken 230 kV Tie and
Segments of the Graniteville #2 - Toolebeck 230 kV and
Toolebeck - South Augusta 230 kV Tie and
Associated Facilities
Aiken County, SC
November 7, 2019

Note: Waters shown were delineated by PEC in September and October 2019. Wetlands were flagged in the field with pink "Wetland Delineation" flagging, stand alone streams with blue and white striped. Flagged boundaries were GPSed with a submeter GPS unit but had not been surveyed at the time this map was prepared and had not been verified by the US Army Corps of Engineers. This map should be used for preliminary planning purposes only. PEC assumes no liability for others' use of this map.

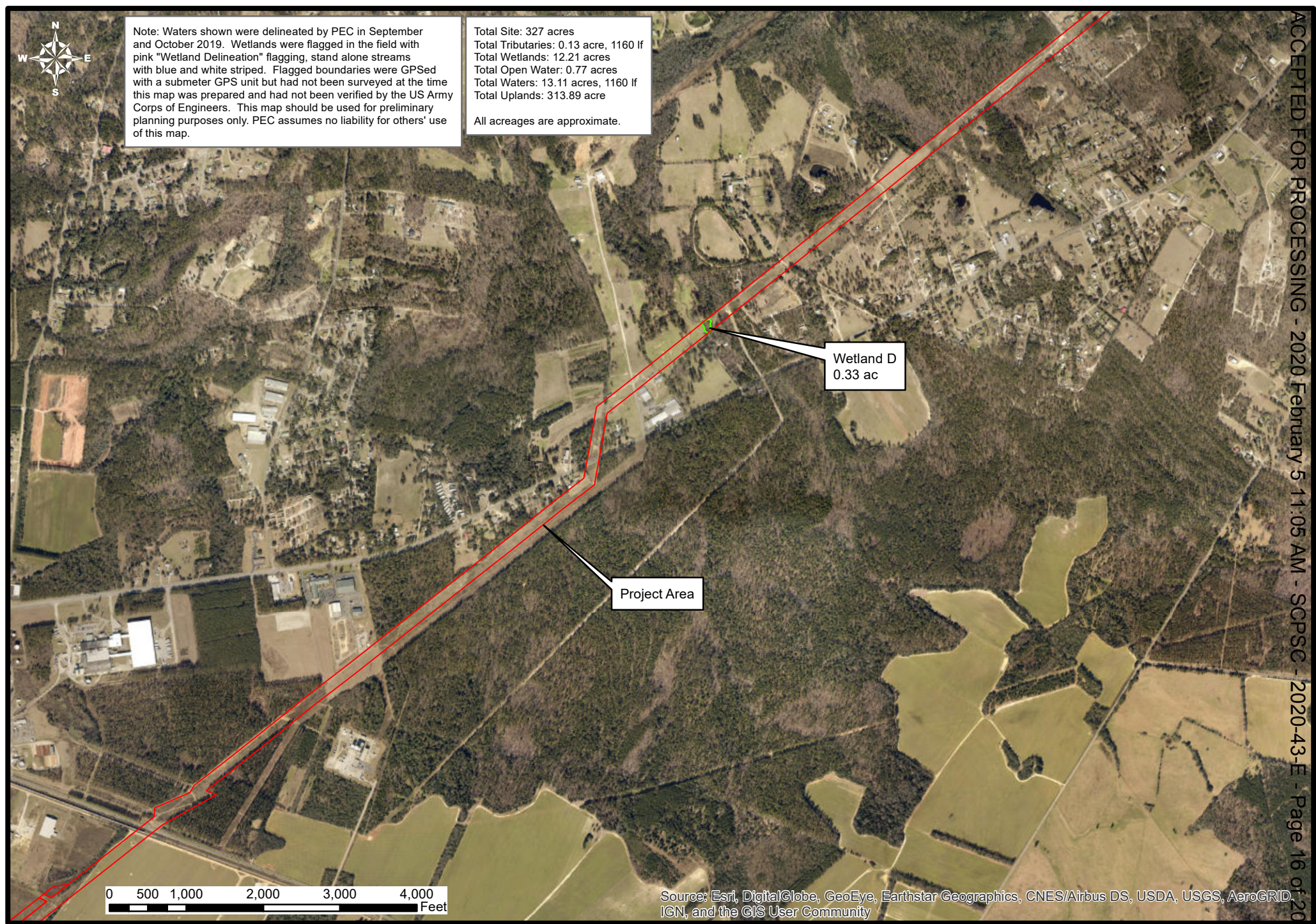
Total Site: 327 acres
 Total Tributaries: 0.13 acre, 1160 lf
 Total Wetlands: 12.21 acres
 Total Open Water: 0.77 acres
 Total Waters: 13.11 acres, 1160 lf
 Total Uplands: 313.89 acre

All acreages are approximate.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 2-1. Aerial/Waters Map
 Toolebeck - Aiken 230 kV Tie and
 Segments of the Graniteville #2 - Toolebeck 230 kV and
 Toolebeck - South Augusta 230 kV Tie and
 Associated Facilities
 Aiken County, SC
 November 7, 2019



Note: Waters shown were delineated by PEC in September and October 2019. Wetlands were flagged in the field with pink "Wetland Delineation" flagging, stand alone streams with blue and white striped. Flagged boundaries were GPSed with a submeter GPS unit but had not been surveyed at the time this map was prepared and had not been verified by the US Army Corps of Engineers. This map should be used for preliminary planning purposes only. PEC assumes no liability for others' use of this map.

Total Site: 327 acres
Total Tributaries: 0.13 acre, 1160 lf
Total Wetlands: 12.21 acres
Total Open Water: 0.77 acres
Total Waters: 13.11 acres, 1160 lf
Total Uplands: 313.89 acre

All acreages are approximate.

Project Area

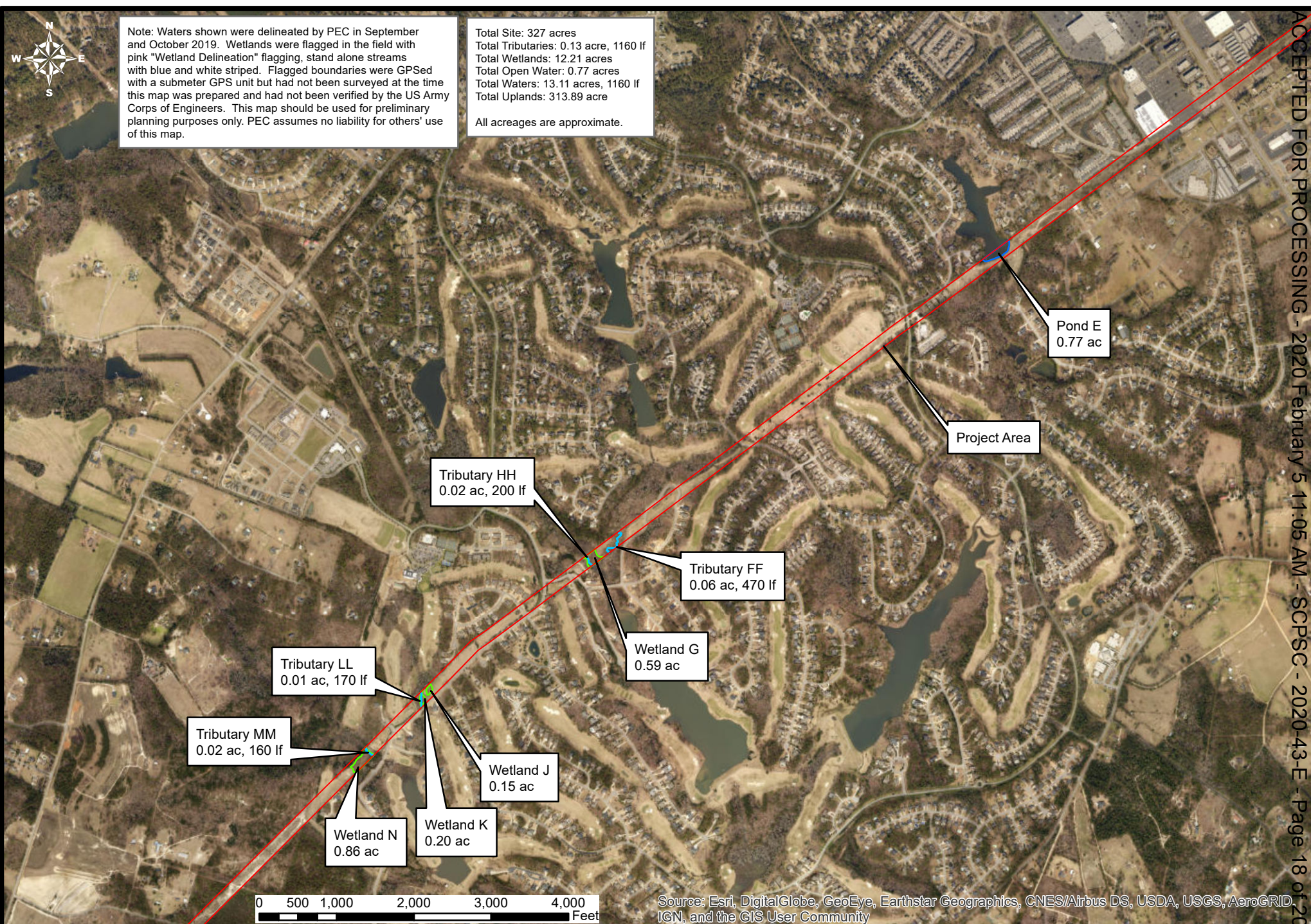
0 500 1,000 2,000 3,000 4,000
Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Note: Waters shown were delineated by PEC in September and October 2019. Wetlands were flagged in the field with pink "Wetland Delineation" flagging, stand alone streams with blue and white striped. Flagged boundaries were GPSed with a submeter GPS unit but had not been surveyed at the time this map was prepared and had not been verified by the US Army Corps of Engineers. This map should be used for preliminary planning purposes only. PEC assumes no liability for others' use of this map.

Total Site: 327 acres
 Total Tributaries: 0.13 acre, 1160 lf
 Total Wetlands: 12.21 acres
 Total Open Water: 0.77 acres
 Total Waters: 13.11 acres, 1160 lf
 Total Uplands: 313.89 acre

All acreages are approximate.

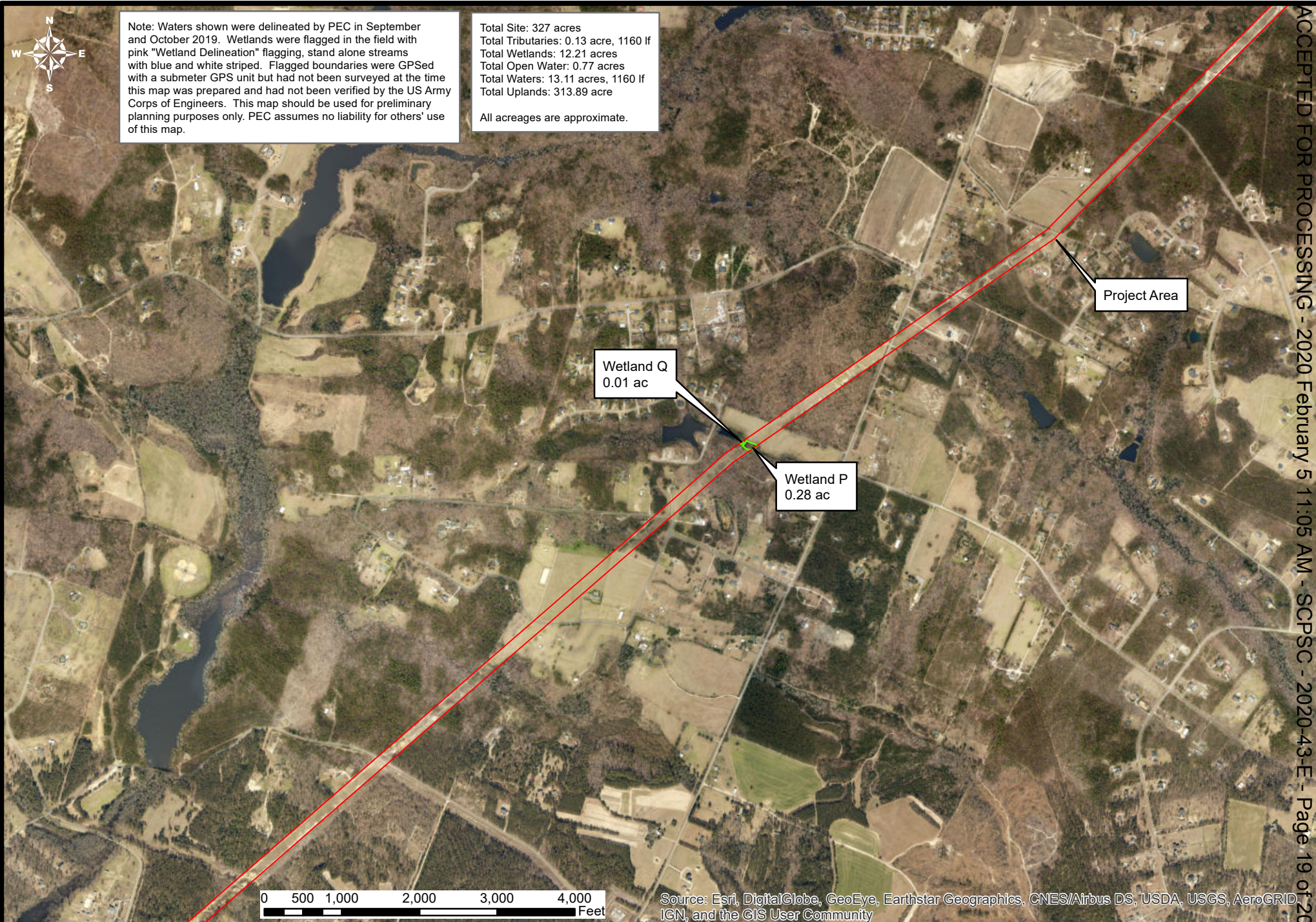


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Note: Waters shown were delineated by PEC in September and October 2019. Wetlands were flagged in the field with pink "Wetland Delineation" flagging, stand alone streams with blue and white striped. Flagged boundaries were GPSed with a submeter GPS unit but had not been surveyed at the time this map was prepared and had not been verified by the US Army Corps of Engineers. This map should be used for preliminary planning purposes only. PEC assumes no liability for others' use of this map.

Total Site: 327 acres
 Total Tributaries: 0.13 acre, 1160 lf
 Total Wetlands: 12.21 acres
 Total Open Water: 0.77 acres
 Total Waters: 13.11 acres, 1160 lf
 Total Uplands: 313.89 acre

All acreages are approximate.

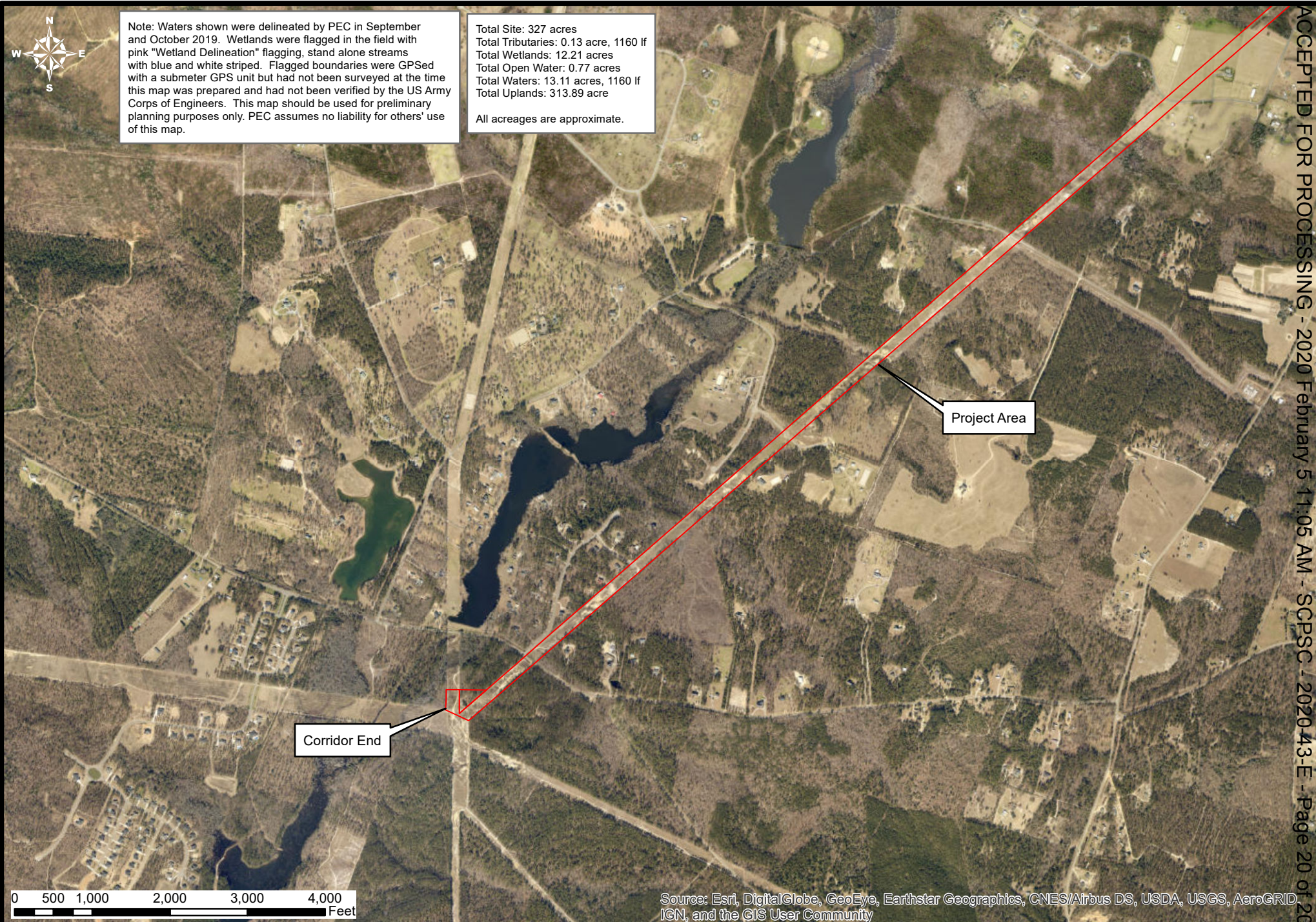


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Note: Waters shown were delineated by PEC in September and October 2019. Wetlands were flagged in the field with pink "Wetland Delineation" flagging, stand alone streams with blue and white striped. Flagged boundaries were GPSed with a submeter GPS unit but had not been surveyed at the time this map was prepared and had not been verified by the US Army Corps of Engineers. This map should be used for preliminary planning purposes only. PEC assumes no liability for others' use of this map.

Total Site: 327 acres
 Total Tributaries: 0.13 acre, 1160 lf
 Total Wetlands: 12.21 acres
 Total Open Water: 0.77 acres
 Total Waters: 13.11 acres, 1160 lf
 Total Uplands: 313.89 acre

All acreages are approximate.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community